

Application No. 10/608,918

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Please cancel claim claims 5-9, 14-19, and 31-45 without prejudice.

Listing of Claims:

1. (currently amended) A printing apparatus comprising:
a print mechanism having a movable component;
an optical grating for modulating a beam of light;
a sensor for sensing modulated light provided by the optical grating;

the optical grating and the sensor moving relative to each other pursuant to movement of the movable component; and

the optical grating including an optical track comprising a series of contiguously adjacent encoder bars that are substantially uniformly spaced center to center so as to have a substantially uniform pitch, the series of contiguously adjacent encoder bars including (a) a plurality of contiguously adjacent first encoder bars of first encoder bar heights and (b) a plurality of second encoder bars of a substantially constant second encoder bar height, wherein the contiguously adjacent first encoder bars and the second encoder bars are substantially uniformly spaced, and wherein the contiguously adjacent first encoder bars are configured to change an amplitude of an output of the sensor each of the first encoder bar heights is different from the substantially constant second bar height.

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2. (original) The printing apparatus of claim 1 wherein the movable component comprises a print drum and further including an ink jet marking system.

3. (original) The printing apparatus of claim 1 wherein the movable component comprises an ink jet printhead and further including a supply of solid ink that is melted and provided to the ink jet printhead.

4. (original) The printing apparatus of claim 1 wherein the movable component comprises a print drum and further including an electrophotographic marking system.

5. – 9. (canceled)

10. (original) The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are shorter than the second encoder bars.

11. (original) The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are shorter than the second encoder bars and are of gradually changing height.

12. (original) The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are taller than the second encoder bars.

13. (original) The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars are taller than the second encoder bars and are of gradually changing height.

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14. – 19. (canceled)

20. (currently amended) The printing apparatus of claim 1 wherein the contiguously adjacent first encoder bars and the second encoder bars include ~~the non-linear sides~~.

21. (original) The printing apparatus of claim 1 wherein the plurality of second encoder bars are disposed on both sides of the contiguously adjacent first encoder bars.

22. (currently amended) A printing apparatus comprising:
a print mechanism having a movable component;
an optical grating for modulating a beam of light;
a sensor for sensing modulated light provided by the optical grating;

the optical grating and the sensor being movable relative to each other pursuant to movement of the movable component; and

the optical grating including an optical track comprising a series of contiguously adjacent encoder bars that are substantially uniformly spaced center to center so as to have substantially uniform pitch. the series of contiguously adjacent bars including (a) a plurality of contiguously adjacent first encoder bars of respective first encoder bar widths and (b) a plurality of second encoder bars of a substantially constant second encoder bar width, wherein the contiguously adjacent first encoder bars and the second encoder bars have non-linear sides and are substantially uniformly spaced, and wherein each of the first encoder bar widths is different from the substantially constant second encoder bar width.

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23. (original) The printing apparatus of claim 22 wherein the movable component comprises a print drum and further including an ink jet marking system.

24. (original) The printing apparatus of claim 22 wherein the movable component comprises an ink jet printhead and further including a supply of solid ink that is melted and provided to the ink jet printhead.

25. (original) The printing apparatus of claim 22 wherein the movable component comprises a print drum and further including an electrophotographic marking system.

26. (original) The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are narrower than the second encoder bars.

27. (original) The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are narrower than the second encoder bars and are of gradually changing width.

28. (original) The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are wider than the second encoder bars.

29. (original) The printing apparatus of claim 22 wherein the contiguously adjacent first encoder bars are wider than the second encoder bars and are of gradually changing width.

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30. (original) The printing apparatus of claim 22 wherein the plurality of second encoder bars are disposed on both sides of the contiguously adjacent first encoder bars.

31. – 45. (canceled)

46. (new) A printing apparatus comprising:
a print mechanism having a movable component;
an optical grating for modulating a beam of light;
a sensor for sensing modulated light provided by the optical grating;

the optical grating and the sensor being movable relative to each other pursuant to movement of the movable component; and

the optical grating including an optical track comprising a series of contiguously adjacent encoder bars that are substantially uniformly spaced center to center so as to have substantially uniform pitch, the series of contiguously adjacent bars including (a) a plurality of contiguously adjacent first encoder bars of respective first encoder bar transmissivities and (b) a plurality of second encoder bars of a substantially constant second encoder bar transmissivity, wherein each of the first encoder bar transmissivities is different from the substantially constant second encoder bar transmissivity.

47. (new) The printing apparatus of claim 46 wherein the movable component comprises a print drum and further including an ink jet marking system.

48. (new) The printing apparatus of claim 46 wherein the movable component comprises an ink jet printhead and further including a supply of solid ink that is melted and provided to the ink jet printhead.

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49. (new) The printing apparatus of claim 46 wherein the movable component comprises a print drum and further including an electrophotographic marking system.

50. (new) The printing apparatus of claim 46 wherein the plurality of second encoder bars are disposed on both sides of the contiguously adjacent first encoder bars.

51. (new) The printing apparatus of claim 46 wherein the first encoder bars are lighter than the second encoder bars.

52. (new) The printing apparatus of claim 46 wherein the first encoder bars are darker than the second encoder bars.

53. (new) The printing apparatus of claim 46 wherein the first encoder bars are more transmissive than the second encoder bars.

54. (new) The printing apparatus of claim 46 wherein the first encoder bars are less transmissive than the second encoder bars.

55. (new) The printing apparatus of claim 46 wherein the contiguously adjacent first encoder bars and the second encoder bars include non-linear sides.